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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Thomas Fuehrer

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EXAMINER

MUI, GARY

ART UNIT

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2464

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/719,345	FUEHRER, THOMAS	
	Examiner	Art Unit	
	GARY MUI	2464	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 March 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-9 and 11-13 is/are rejected.
- 7) ☒ Claim(s) 3 and 10 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Response to Arguments

1. Applicant's arguments with respect to claims 1 – 13 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

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5. Claims 1, 4, 5, 11, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Patek et al. (US 2003/0088694 A1; hereinafter “Patek”) in view of Bender et al. (US 6,920,504 B2; hereinafter “Bender”).

For claim 1, Patek teaches transmitting messages in transmission time slots at a preselected transmission rate (see paragraph 0004; packets are sent in timeslots where the rate is at the size of the time slot), wherein each transmission time slot is uniquely allocated to a corresponding single message (see paragraph 0004; copies of packet must be sent in the same time slot where the particular time slot is of this type of message and where the time slot is used for the copies); and that a correspond single message provided for the at least one transmission time slot is transmitted repeatedly within the at least one transmission time slot (see paragraph 0004; copies of the packet must be sent in the same time slot; where copies of the packet and be placed repeatedly along the time slot). Patek fails to explicitly teach dynamically changing, during transmission of messages, the transmission rate for at least one transmission time slot. Bender endeavor of controller flow of data in a communication system similar to the endeavor of Patek of scheduling frames teaches the amount of data communicated in a period of time varies in accordance with the communication data rate (see column 4 line 2 – 5). Therefore, it would have been obvious to one skilled in the art at the time of the invention was made to change the rate for a period of time as taught by Bender to place the copies of the packet as taught by Patek. The motivation for doing this is to ensure an efficient control flow of data in a communication system.

For claim 4, Patek teaches unambiguously allocating the messages to transmission time slot (see paragraph 0004; messages allocated to time slots).

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For claim 5, Patek and Bender teach all of the claimed subject matter with the exception of multiplying the transmission rate within a transmission time slot by an integral factor. However, it would have been obvious to one skilled in the art time of the invention to multiply the transmission rate by an integer as a matter of design choice because the value of the rate will not effect the system as a whole as any factor for the transmission rate will produce reasonable and predicable results. The motivation for doing this is to increase the scalability of the system.

For claim 11, Patek teaches first means for transmission messages in transmission time slots at a preselected transmission rate (see paragraph 0004; packets are sent in timeslots where the rate is at the size of the time slot), wherein each transmission time slot is uniquely allocated to a corresponding single message (see paragraph 0004; copies of packet must be sent in the same time slot where the particular time slot is of this type of message and where the time slot is used for the copies); and a corresponding single message provided for the transmission time slot is transmitted repeatedly within the transmission time slot (see paragraph 0004; copies of the packet must be sent in the same time slot; where copies of the packet and be placed repeatedly along the time slot). Patek fails to explicitly teach second means for dynamically changing, during transmission of messages, the transmission rate for at least one transmission time slot. Bender endeavor of controller flow of data in a communication system similar to the endeavor of Patek of scheduling frames teaches the amount of data communicated in a period of time varies in accordance with the communication data rate (see column 4 line 2 – 5). Therefore, it would have been obvious to one skilled in the art at the time of the invention was made to change the rate for a period of time as taught by Bender to place the copies of the

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packet as taught by Patek. The motivation for doing this is to ensure an efficient control flow of data in a communication system.

For claim 12, Patek teaches comprising third means for unambiguously allocating the messages to transmission time slot (see paragraph 0004; messages allocated to time slots).

Claim Rejections - 35 USC § 103

6. Claims 2, 8, 9, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Patek and Bender as applied to claims 1 and 11 above, and further in view of Kage (US 4,709,376).

For claim 2, Patek and Bender teaches all of the claimed subject matter with the exception of comparing at least two of the messages transmitted repeatedly within a transmission time slot with one another; and detecting a fault in the event of deviations with regard to at least one of the identification and the data. Kage from the same field of endeavor teaches that the data stored in the store are read out and applied to a majority circuit which then checks the bits of the patterns A_1, A_2, \dots, A_M each representative of the same information and, by majority, decides a single pattern $D = d^1 d^2 \dots d^k$. For example, d^k is the result of checking $a_1^k, a_1^k, \dots, a_m^k$ for majority; if the number of ONEs is greater than that of ZEROS, $d_k = \text{ONE}$ (see column 4 lines 28 – 35, the bits are compared with each other and determined to find the correct pattern). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to processed the received signals as taught by Kage into the system of Patek and Bender. The motivation for doing this is to more reliable bus system.

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For claim 8, Patek and Bender teaches all of the claimed subject matter with the exception the messages contain an identification and data, the identification identifying data content, and the messages transmitted repeatedly within a transmission time slot are identical at least with regard to the identification and the data. Kage from the same field of endeavor teaches there is provided an apparatus for processing a digital received signal in which the same information appears repeatedly (see column 1 lines 52 – 55, the same data is transmitted). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to sending identical messages as taught by Kage into Patek and Bender. The motivation for doing this is to have lower error rates.

For claim 9, Patek and Bender teaches all of the claimed subject matter with the exception of comparing at least two of the messages transmitted repeatedly within a transmission time slot with one another; and detecting a fault in the event of deviations with regard to at least one of the identification and the data. Kage from the same field of endeavor teaches that the data stored in the store are read out and applied to a majority circuit which then checks the bits of the patterns A_1, A_2, \dots, A_M each representative of the same information and, by majority, decides a single pattern $D = d^1 d^2 \dots d^k$. For example, d^k is the result of checking $a_1^k, a_1^k, \dots, a_m^k$ for majority; if the number of ONEs is greater than that of ZEROS, $d_k = \text{ONE}$ (see column 4 lines 28 – 35, the bits are compared with each other and determined to find the correct pattern). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to process the received signals as taught by Kage into Patek and Bender. The motivation for doing this is to more reliable bus system.

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For claim 13, Patek and Bender teaches all of the claimed subject matter with the exception of a memory device for storing the messages transmitted repeatedly within a particular transmission time slot in a chronological order of their transmission. Kage from the same field of endeavor teaches a store for storing the M information patterns which are received by the information pattern receive circuit (see column 1 lines 60 – 62). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to processed the received signals as taught by Kage into the system of Patek and Bender. The motivation for doing this is to have a more efficient system.

Claim Rejections - 35 USC § 103

7. Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Patek and Bender as applied to claim 1 above, and further in view of Strong (US 2002/0126691).

For claim 6 and 7, Patek and Bender teaches all of the claimed subject matter with the exception of structuring the message in such a way that a beginning and an end of the message are unambiguously detectable and that each of the messages has a first identifier for the beginning of the message and a second identifier for the end of the message. Strong from the same field of endeavor teaches a data frame has a start of frame and an end of frame (see paragraph 0040 lines 1 – 5 and paragraph 0051 lines 1 – 4, see figure 4 Start of frame and End of frame). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to structure the messages a taught by Strong to be used in Patek and Bender. The motivation for doing this is to have a more accurate system.

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8. Claims 3 and 10 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to GARY MUI whose telephone number is (571)270-1420. The examiner can normally be reached on Mon. - Thurs. 9 - 3 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on (571) 272-3139. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ricky Ngo/
Supervisory Patent Examiner, Art Unit
2464

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Examiner, Art Unit 2464
04/30/2010